10/708341
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L7: Entry 1 of 1 File: USPT May 13, 1997

US-PAT-NO: 5629668
DOCUMENT-IDENTIFIER: US 5629668 A

TITLE: Data display unit for a bicycle

DATE-ISSUED: May 13, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Downs; Robert M.	Madison	WI		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Trek Bicycle, Corp.	Waterloo	WI			02

APPL-NO: 08/ 288399 [PALM]
DATE FILED: August 10, 1994

INT-CL: [06] B62 J 2/00

US-CL-ISSUED: 340/432; 340/627, 462/57
US-CL-CURRENT: 340/432; 340/427, 482/57

FIELD-OF-SEARCH: 340/432, 340/427, 340/438, 324/174, 482/51, 482/57, 482/902, 364/551.01, 364/557, 364/561

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected Search ALL Clear

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4633216	December 1986	Tsuyama	340/140
☐	4636769	January 1987	Tsuyama	340/134
☐	4862395	August 1989	Fey et al.	364/561
☐	4881187	November 1989	Read	364/565
☐	5416728	May 1995	Rudzewicz et al.	364/557

ART-UNIT: 267

PRIMARY-EXAMINER: Hofsass; Jeffery

ASSISTANT-EXAMINER: Lieu; Julie B.

ATTY-AGENT-FIRM: Lee, Mann, Smith, McWilliams, Sweeney & Ohlson

ABSTRACT:

A data display unit for a bicycle includes a means for determining and displaying an operational data signal in a normal operating mode and a workout data signal of a workout window mode having predetermined data information including time, distance, average and maximum speed. The unit is configured to calculate and display the predetermined information of the operational data signal information and to allow for the manual actuation to begin separate calculation, display and resetting of the predetermined information of the workout data signal. The display includes a liquid crystal display for displaying separately operational data signals and workout data signals.

26 Claims, 10 Drawing figures

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Search Results - Record(s) 1 through 2 of 2 returned.

☐ 1. Document ID: US 20040220712 A1

L1: Entry 1 of 2 File: PGPB Nov 4, 2004

PGPUB-DOCUMENT-NUMBER: 20040220712
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040220712 A1

TITLE: BICYCLE INFORMATION PROCESSING APPARATUS WITH MEMORY PROTECTION

PUBLICATION-DATE: November 4, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Takeda, Kazuhiro	Sakai		JP	
Kitamura, Satoshi	Kitakatsuragi-gun		JP	
Takebayashi, Haruyuki	Yao-shi		JP	

US-CL-CURRENT: 701/35

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 20040172178 A1

L1: Entry 2 of 2 File: PGPB Sep 2, 2004

PGPUB-DOCUMENT-NUMBER: 20040172178
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040172178 A1

TITLE: BICYCLE DISPLAY APPARATUS WITH DISTRIBUTED PROCESSING

PUBLICATION-DATE: September 2, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Takeda, Kazuhiro	Sakai		JP	
Takebayashi, Haruyuki	Yao-shi		JP	

US-CL-CURRENT: 701/29; 701/1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Drawi D

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L1: Entry 2 of 2 File: PGPB Sep 2, 2004

PGPUB-DOCUMENT-NUMBER: 20040172178
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040172178 A1

TITLE: BICYCLE DISPLAY APPARATUS WITH DISTRIBUTED PROCESSING

PUBLICATION-DATE: September 2, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Takeda, Kazuhiro	Sakai		JP	
Takebayashi, Haruyuki	Yao-shi		JP	

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
SHIMANO, INC.	Sakai		JP	03

APPL-NO: 10/ 708341 [PALM]
DATE FILED: February 25, 2004

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
JP	2003-050871	2003JP-2003-050871	February 27, 2003

INT-CL: [07] G06 F 17/00

US-CL-PUBLISHED: 701/029; 701/001
US-CL-CURRENT: 701/29; 701/1

REPRESENTATIVE-FIGURES: 4

ABSTRACT:

A bicycle display apparatus comprises a computing component and a separate display component. The computing component is structured for attachment to the bicycle, calculates cumulative information produced from a bicycle-related running condition, and includes an information output for outputting the calculated cumulative information. The display component includes an information input that receives the cumulative information calculated by the computing component, and the display component displays the cumulative information calculated by the computing component.

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L1: Entry 2 of 2 File: PGPB Sep 2, 2004

DOCUMENT-IDENTIFIER: US 20040172178 A1
TITLE: BICYCLE DISPLAY APPARATUS WITH DISTRIBUTED PROCESSING

Summary of Invention Paragraph:
[0002] Cycle computers typically calculate and display travel information such as the bicycle velocity, travel distance, total distance, and so on. Such a cycle computer is shown in Japanese Unexamined Patent Application (Kokai) 2000-16367. More specifically, cycle computers typically comprise a display control component having a microcomputer that is operated by power supplied from an internally mounted battery, a liquid crystal display (LCD) component for displaying the travel information, and mode buttons for various types of input and control functions. A conventional rotation sensor comprising a reed switch mounted on the bicycle frame and a magnet mounted on a wheel is operatively coupled with or without wires to the display control component, and the display control component computes the velocity, total distance, or travel distance based on electrical pulses from the rotation sensor.

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L1: Entry 1 of 2 File: PGPB Nov 4, 2004

PGPUB-DOCUMENT-NUMBER: 20040220712
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040220712 A1

TITLE: BICYCLE INFORMATION PROCESSING APPARATUS WITH MEMORY PROTECTION

PUBLICATION-DATE: November 4, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Takeda, Kazuhiro	Sakai		JP	
Kitamura, Satoshi	Kitakatsuragi-gun		JP	
Takebayashi, Haruyuki	Yao-shi		JP	

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
SHIMANO, INC.	Sakai		JP	03

APPL-NO: 10/ 708650 [PALM]
DATE FILED: March 17, 2004

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
JP	2003-088792	2003JP-2003-088792	March 27, 2003

INT-CL: [07] G06 F 7/00

US-CL-PUBLISHED: 701/035
US-CL-CURRENT: 701/35

REPRESENTATIVE-FIGURES: 3

ABSTRACT:

A bicycle information processing apparatus comprises a memory for storing information related to the bicycle; an information processing unit that accesses the memory and processes information stored in the memory; and a power supply sensor that detects an ability of a power supply to supply power so that the memory may be accessed without damaging information stored therein.

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L1: Entry 1 of 2 File: PGPB Nov 4, 2004

DOCUMENT-IDENTIFIER: US 20040220712 A1
TITLE: BICYCLE INFORMATION PROCESSING APPARATUS WITH MEMORY PROTECTION

Summary of Invention Paragraph:
[0002] Cycle computers typically calculate and display bicycle-related information such as the bicycle velocity, travel distance, total distance, and so on. Such a cycle computer is shown in Japanese Unexamined Patent Application (Kokai) 2000-16367. More specifically, cycle computers typically comprise a memory for storing information, an information processing unit (e.g., a microprocessor) that accesses the memory and processes the information stored therein, a liquid crystal display (LCD) for displaying information processed by the information processing unit, and a power supply such as an internally mounted battery for supplying power to the various components. A conventional rotation sensor comprising a reed switch mounted on the bicycle frame and a magnet mounted on a wheel is operatively coupled with or without wires to the information processing unit, and the information processing unit computes the velocity, travel distance and total distance based on electrical pulses from the rotation sensor. Many current cycle computers are built so that at least the LCD and related components are detachably mounted to the bicycle for theft prevention purposes.

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